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09/538,517	03/29/2000	Jun Maruo	SONY-50N3505	6696

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Wagner Murabito & Hao LLP
Two North Market Street
Third Floor
San Jose, CA 95113

EXAMINER

BOWES, SARA E

ART UNIT	PAPER NUMBER
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2171

DATE MAILED: 11/12/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/538,517

Applicant(s)

MARUO ET AL.

Examiner

Sara Bowes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

The drawings of Figure 3 are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "312" has been used to designate both an encryption unit and an encryption key register.

The drawings of Figure 5 and 6 are objected to as failing to properly label the components. The following mislabeling of components have been found:

Line 19 and 20 of page 22, it is suggested that the transceiver 200 be relabeled as 300;

Line 25 of page 22, it is suggested that internet/cable 391 be relabeled as 385;

Line 26 of page 22, it is suggested that satellite/terrestrial broadcast 392 be relabeled as 385;

Line 2 of page 23, it is suggested that television 375 be relabeled as display device 395;

Line 21 of page 23, it is suggested that BIUs 624-635 be relabeled as BIUs 624-625.

The drawings of Figure 6 are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "330" and "345" have both been used to designate conditional access block.

The drawings of Figure 6 are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: transceiver 300.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: missing information. On page 18, lines 12 and 16-17, the U.S. Patent application serial number and filing date is absent from the specification.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: On page 25, line 26, it is suggested that block 310 be replaced with Front End Block 310.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-8, 11-13, 15-16, 18-22, 25-26, 28-31, 33-40, and 43-44 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,098,133 to Summers et al. in view of U.S. Patent No. 5,990,927 to Hendricks et al..

Referring to claims 1, 13, 25, and 34, Summers et al. teach a transceiver system for receiving content contained in a secure digital broadcast signal, comprising:

- A first encryption unit coupled to the first component, and for encrypting the data stream for transmission to generate an encrypted data stream [see figure 4, CP1];
- A second encryption unit coupled to the second component and for decrypting the encrypted data stream received from the first component [see figure 4, CP2];
- A bi-directional digital bus coupled to the first encryption unit and the second encryption unit [see figure 4, BUS 47 and column 3, lines 59-60]; and
- A third component coupled to the bus for arbitration such that content from the data stream is securely transferred across the bus [see figure 4, KP 46].

Summers et al. do not teach a transceiver system for receiving content contained in a secure digital broadcast signal, comprising;

- A first component for generating a data stream;
- A second component for generating a video signal for a display device;

However, Hendricks et al. disclose a transceiver system for receiving content contained in a secure digital broadcast signal, comprising;

- A first component for generating a data stream [see figure 4, DEMOD 606 and column 35, line 41];
- A second component for generating a video signal for a display device [see figure 4, NTSC ENCODER 625;

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Hendricks et al.'s teachings of a first component for generating a data stream and a second component for generating a video display to the system/method of Summers et al., such that Summers et al.'s system generate a data stream to be encrypted and then decrypted at the second component to generate a video signal for display. One of ordinary skill in the art would have been motivated to modify Summers et al.'s system as such in order to enable the generated data stream to be secure at all times and not expose the data in non-encrypted format.

Referring to claims 2 and 26, Summers et al. as modified teach the system/method of claims 1 and 25 respectively, wherein the transceiver is a set-top box [see figure 5a of Hendricks et al.].

Referring to claims 3, 15, 18, 28, and 35, Summers et al. as modified teach the system/method of claims 1, 13, 25, and 34 respectively, wherein the first component is an audio video decode block for decoding the data stream from a digital broadcast signal [see figure 4, DEMOD 606 and column 35, line 41].

Referring to claims 4, 16, 29, and 36, Summers et al. as modified teach the system/method of claims 1, 13, 25, and 34 respectively, wherein the second component is a graphics block for generating the video signal from the data stream received from the first component [see figure 4, NTSC ENCODER 625 of Hendricks et al.].

Referring to claims 5, 19, 30, and 37, Summers et al. as modified teach the system/method of claims 1, 13, 25, and 34 respectively, wherein the third component is a CPU (central processing unit) block [INFOSEC Controller] coupled to the bus for managing an encryption process of the first encryption unit and the second encryption unit [see column 4, lines 65 - 67]

Referring to claims 6, 20, 31, and 38, Summers et al. as modified teach the system/method of claims 5, 19, 30, and 34 respectively, wherein the encryption process is key-based encryption process and the CPU block manages the distribution of keys to the first encryption unit and the second encryption unit [see column 4, lines 65-67 of Summers et al.].

Referring to claims 7, 21, and 39, Summers et al. as modified teach the system/method of claims 5, 19, and 34 respectively, further comprising an arbiter coupled to the CPU block for arbitration of the bus [see figure 4, SECURE BUS ARBITER 40 of Summers et al.].

Referring to claims 11 and 43, Summers et al. as modified teach the system/method of claims 1 and 34 respectively, further comprising a front end block coupled to the bus for receiving the digital broadcast signal and generating the data stream therefrom, the first component coupled to receive the data stream from the front end block via the bus [see figure 4, TUNER 603 of Hendricks et al.].

Referring to claims 12, 33, and 44, Summers et al. as modified teach the system/method of claims 1, 25, and 34 respectively, wherein the data stream is substantially compliant with a version of the MPEG (Moving Pictures Experts Group) format [see column 8, line 24].

Claims 8, 22, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Summers et al. and Hendricks et al., and further in view of Computer Architecture and Organization to John P. Hayes.

Referring to claims 8, 22, and 40, Summers et al. as modified teach all limitations of the claims except do not explicitly recite the system/method of claims 1, 19, and 34

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respectively, wherein the first component, second component, and third component include respective identification registers for identifying each component. Nonetheless, it is inherent in computer architecture, like that taught by Summers et al. and Hendricks et al., that each component have a register to allow for the CPU to identify the present state of the component.

However, the examiner herein addresses the possibility that the claimed register architecture is not inherent in Summers et al. as modified. So, for argument's sake, Summers et al. as modified is silent as to the provision of registers in the first, second, and third components.

Hayes does disclose in the system/method of claims 1, 19, and 34 respectively, wherein the first component, second component, and third component include respective identification registers for identifying each component [see page 139, Circuit specification, second paragraph].

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Hayes' teachings such that each component of Summers et al. and Hendricks et al.'s system have a register therein. One of ordinary skill in the art would have been motivated to modify Summers et al. and Hendricks et al.'s system as such in order to allow for the CPU to identify the present state of the component.

Claims 9-10, 14, 23-24, 27, 32, and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Summers et al. and Hendricks et al., and further in view of U.S. Patent No. 5,805,706 to Davis.

Referring to claims 9, 23, 32, and 41, Summers et al. and Hendricks et al. do not explicitly teach the system/method of claims 1, 19, 25, and 34 respectively, wherein said data stream is encrypted using an encryption process substantially compliant with DES ECB (Data Encryption Standard Electronic Code Book).

However, Davis does disclose the system/method of claims 1, 19, 25, and 34 respectively, wherein said data stream is encrypted using an encryption process substantially compliant with DES ECB (Data Encryption Standard Electronic Code Book) [see column 3, line 16].

It would have been obvious to one of ordinary skill in the art at the time the inventions was made to apply Davis' teachings of a DES compliant encryption process, such that the encryption units of Summers et al. and Hendricks et al. perform DES encryption. One of ordinary skill in the art would have been motivated to modify Summers et al and Hendricks et al.'s system as such in order to make it compliant with industry standards and thus easing the integration of the subsystem into other systems.

Referring to claims 10, 24, 27, and 42, Summers et al. and Hendricks et al. do not teach the system/method of claims 1, 19, 25, and 34 respectively, wherein the bus

is a PCI (Peripheral Component Interconnect) compliant bus and each encryption unit performs encryption and decryption.

However, Davis does disclose the system/method of claims 1, 19, 25, and 34 respectively, wherein the bus is a PCI (Peripheral Component Interconnect) compliant bus and each encryption unit performs encryption and decryption [see column 3, line 36 and column 4, lines 57-58].

It would have been obvious to one of ordinary skill in the art at the time the inventions was made to apply Davis' teachings of a PCI bus and each encryption unit performing encryption and decryption, such that the encryption units of Summers et al. and Hendricks et al. perform encryption and decryption. One of ordinary skill in the art would have been motivated to modify Summers et al and Hendricks et al.'s system as such to enable the cryptographic unit to decrypt or encrypt data that is sent and received via the PCI bus (bi-directional).

Referring to claim 14, Summers et al. and Hendricks et al. do not teach the architecture of claim 13 wherein the first component and the first encryption unit are built into a first integrated circuit device and the second component and the second encryption unit are built into a second integrated circuit device.

However, Davis does disclose the architecture of claim 13 wherein the first component and the first encryption unit are built into a first integrated circuit device and the second component and the second encryption unit are built into a second integrated circuit device [see column 4, lines 19-24].

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Davis' teachings such that the encryption unit and first and second components of Summers et al. and Hendricks et al. are built into integrated circuit devices. One of ordinary skill in the art would have been motivated to modify Summers et al. and Hendricks et al.'s system as such in order to add an extra level of secure for the plain text or key information.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Summers et al. and Hendricks et al., and further in view of U.S. Patent No. 5,872,846 to Ichikawa.

Referring to claim 17, Summers et al. and Hendricks et al. do not teach the architecture of claim 13 wherein the first component is a conditional access block for descrambling the digital broadcast signal.

However, Ichikawa does disclose the architecture of claim 13 wherein the first component is a conditional access block for descrambling the digital broadcast signal [see figure 3, First-Level Decoder 332, Key 308].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Ichikawa's teachings of a conditional access block such that the first component of Summers et al. and Hendricks et al. is a conditional access block. One of ordinary skill in the art would have been motivated to modify Summers et al. and Hendricks et al.'s system as such in order to allow only the authorized subscriber to obtain the program.

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,026,088 to Rostoker et al.

U.S. Patent No. 5,887,187 to Rostoker et al.

U.S. Patent No. 5,944,822 to Cornils.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Bowes whose telephone number is 703-305-0326.

The examiner can normally be reached on 7:30-4:00, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

seb
10/29/03



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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100